

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS AND INTERFERENCES**

In Re Application of:

Confirmation No.: 5553

Ramachandran et al.

Group Art Unit: 2611

Serial No.: 10/696,626

Examiner: Wong, Linda

Filed: October 29, 2003

Docket No.: 03SKY0003

For: Multi-Mode Receiver

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

Mail Stop Appeal Brief - Patents  
Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This Appeal Brief under 37 C.F.R. § 41.37 is submitted in support of the Notice of Appeal filed on May 12, 2008, responding to the final Office Action mailed December 11, 2007 (Part of Paper No./Mail Date 20071129), rejecting claims 1-33 in the present application and making the rejection final, and to the Advisory Action mailed March 18, 2008 (Part of Paper No. 20080221), which maintained the rejection of claims 1-33. A Pre-Appeal Brief Request for Review was filed on May 12, 2008, and a Notice of Panel Decision dated July 22, 2008 indicated that there remains at least one actual issue for appeal.

### **I. REAL PARTY IN INTEREST**

The real party in interest of the instant application is Skyworks Solutions, Inc., having its principal place of business at 5221 California Avenue, M/S 41-1C, Irvine, California 92612.

### **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

### **III. STATUS OF THE CLAIMS**

Claims 1-33 are pending in the present application. Through prosecution of this matter, no claims have been canceled. Claims 1-33 were rejected by the final Office Action dated December 11, 2007 and are the subject of this appeal.

### **IV. STATUS OF AMENDMENTS**

No amendments have been made or requested since the mailing of the final Office Action and all amendments submitted prior to the final action have been entered. A copy of the current claims is attached hereto in Section VIII.

### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

Embodiments of the claimed subject matter are illustrated in FIGs. 1-5 and are discussed in the specification at least at pages 1-14.

Embodiments of the claimed subject matter, such as those defined by claim 1, define a method for receiving signals based on a plurality of systems, the method comprising: converting a first signal (see e.g., FIG. 2, reference numeral 207 and page 7, lines 6-8) based on a first system to a first baseband signal (see e.g., FIG. 2, reference numeral 209 and page 6, line 11 –

page 7, line 9); converting a second signal (see e.g., FIG. 2, reference numeral 237 and page 9, lines 11-26) based on a second system to a second baseband signal (see e.g., FIG. 2, reference numeral 239 and page 9, lines 11-26); processing the first baseband signal using baseband components (see e.g., FIG. 2, reference numeral 212a and page 7, lines 9-25); and processing the second baseband signal using the baseband components (see e.g., page 9, lines 11-26), wherein processing the first baseband signal and the second baseband signal comprises selectively filtering (see e.g., FIG. 2, reference numeral 214 and page 9, lines 16-26) and selectively DC-offset correcting (see e.g., FIG. 2, reference numeral 224 and page 9, lines 16-26) the first and second baseband signals, wherein selectively filtering and selectively DC-offset correcting comprises selecting different filtering bandwidths and different DC-offset correcting bandwidths based on which system baseband signal is to be processed (see e.g., page 7, lines 9-25).

Embodiments of the claimed subject matter, such as those defined by claim 2, further define the method of claim 1, wherein the first system and the second system each include at least one of the following systems code-division multiple access, personal-communication service, global-positioning satellite, digital-broadcast satellite, and global system for mobile communications (see e.g., page 2, line 29 – page 3, line 24).

Embodiments of the claimed subject matter, such as those defined by claim 3, further define the method of claim 1, wherein the processing further includes at least one of filtering (see e.g., FIG. 2, reference numeral 214 and page 7, lines 9-25), amplifying (see e.g., FIG. 2, reference numeral 218 and page 7, lines 9-25), providing digital-to-analog conversion (see e.g., FIG. 4, reference numeral 428 and page 11, line 21 – page 13, line 28), providing analog-to-digital conversion (see e.g., FIG. 4, reference numeral 420 and page 11, line 21 – page 13, line 28), and sampling (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28), and correcting for direct current (DC) offset (see e.g., FIG. 4, reference numeral 418 and

page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 4, further define the method of claim 1, wherein the processing includes processing in at least one of a digital domain and an analog domain (see e.g., page 5, lines 29-30 and page 11, lines 21-22).

Embodiments of the claimed subject matter, such as those defined by claim 5, further define the method of claim 1, wherein the processing includes configuring at least one of the baseband components for a first frequency response characteristic for the first baseband signal (see e.g., FIG. 3A, reference numerals 310, 312 and page 10, line 30 – page 11, line 20) and configuring the at least one of the baseband components for a second frequency response characteristic for the second baseband signal (see e.g., FIG. 3B, reference numerals 314, 316 and page 10, line 30 – page 11, line 20).

Embodiments of the claimed subject matter, such as those defined by claim 6, further define the method of claim 5, wherein the at least one of the baseband components include at least one of low-pass filters (see e.g., FIG. 4, reference numeral 414 and page 11, line 21 – page 13, line 28), finite-impulse response filters (see e.g., FIG. 4, reference numeral 424 and page 11, line 21 – page 13, line 28), and DC-offset correction elements (see e.g., FIG. 4, reference numeral 418 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 7, further define the method of claim 1, wherein the baseband components include at least one of low-pass filters (see e.g., FIG. 4, reference numeral 436 and page 11, line 21 – page 13, line 28), all-pass filters (see e.g., FIG. 2, reference numeral 226 and page 7, lines 9-25), variable-gain amplifiers (see e.g., FIG. 2, reference numeral 218 and page 7, lines 9-25), analog-to-digital converters (see e.g., FIG. 4, reference numeral 442 and page 11, line 21 – page 13, line 28), digital-to-analog converters (see e.g., FIG. 4, reference numeral 432 and page 11, line 21 – page 13, line 28), finite-impulse response filters (see e.g., FIG. 4, reference numeral 446 and

page 11, line 21 – page 13, line 28), smoothing filters (see e.g., FIG. 4, reference numeral 430 and page 11, line 21 – page 13, line 28), decimator filters (see e.g., FIG. 4, reference numeral 444 and page 11, line 21 – page 13, line 28), and DC-offset correction elements (see e.g., FIG. 4, reference numeral 440 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 8, further define the method of claim 1, wherein the converting and processing are performed for a plurality of signals (see e.g., FIG. 2, reference numerals 259, 271, 209, 239, 261, 273 and page 5, line 29 – page 6, line 10) from a plurality of systems (see e.g., page 5, line 29 – page 6, line 10).

Embodiments of the claimed subject matter, such as those defined by claim 9, further define the method of claim 1, wherein the processing includes sampling at a first sampling rate for the first baseband signal and a second sampling rate for the second baseband signal (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 10, further define the method of claim 9, wherein the sampling is performed by at least one of a decimator filter (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28), a digital-to-analog converter (see e.g., FIG. 4, reference numeral 428 and page 11, line 21 – page 13, line 28), and an analog-to-digital converter (see e.g., FIG. 4, reference numeral 420 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 11, define a multi-mode receiver system (see e.g., FIG. 2, reference numeral 200a and page 5, line 29 – page 10, line 29) for processing signals based on a plurality of systems, comprising: a baseband section (see e.g., FIG. 2, reference numeral 212a and page 7, lines 9-25) configured to process a first baseband signal (see e.g., FIG. 2, reference numeral 209 and page 6, line 11 – page 7, line 9) based on a first system (see e.g., page 6, line 11) using baseband

components, wherein the baseband section is further configured to process a second baseband signal (see e.g., FIG. 2, reference numeral 239 and page 9, lines 11-26) based on a second system (see e.g., page 9, line 11) using the baseband components, wherein the baseband components comprise bandwidth-switchable low-pass filters (see e.g., FIG. 2, reference numerals 214, 228 and page 9, lines 16-26) and bandwidth-switchable DC-offset correction elements (see e.g., FIG. 2, reference numerals 224, 236 and page 9, lines 16-26).

Embodiments of the claimed subject matter, such as those defined by claim 12, further define the multi-mode receiver system of claim 11, further including a downconverter that is configured to convert a first signal to the first baseband signal and a second signal to the second baseband signal (see e.g., FIG. 2, reference numeral 210 and page 10, lines 26-29).

Embodiments of the claimed subject matter, such as those defined by claim 13, further define the multi-mode receiver system of claim 11, further including a first downconverter (see e.g., FIG. 2, reference numeral 210 and page 6, lines 26-31) and a second downconverter (see e.g., FIG. 2, reference numeral 244 and page 9, lines 11-16), the first downconverter configured to convert a first signal (see e.g., FIG. 2, reference numeral 207 and page 7, lines 1-8) to the first baseband signal, the second downconverter configured to convert a second signal (see e.g., FIG. 2, reference numeral 237 and page 9, lines 11-26) to the second baseband signal.

Embodiments of the claimed subject matter, such as those defined by claim 14, further define the multi-mode receiver system of claim 11, wherein the first system and the second system each include at least one of the following systems code-division multiple access, personal-communication service, global-positioning satellite, digital-broadcast satellite, and global system for mobile communications (see e.g., page 2, line 29 – page 3, line 16).

Embodiments of the claimed subject matter, such as those defined by claim 15, further define the multi-mode receiver system of claim 11, wherein the baseband components include at least one of the low-pass filters (see e.g., FIG. 2, reference numeral 214 and page 9, lines

16-26), all-pass filters (see e.g., FIG. 2, reference numeral 226 and page 7, lines 9-25), variable-gain amplifiers (see e.g., FIG. 2, reference numeral 218 and page 7, lines 9-25), analog-to-digital converters (see e.g., FIG. 4, reference numeral 420 and page 11, line 21 – page 13, line 28), digital-to-analog converters (see e.g., FIG. 4, reference numeral 428 and page 11, line 21 – page 13, line 28), finite-impulse response filters (see e.g., FIG. 4, reference numeral 424 and page 11, line 21 – page 13, line 28), smoothing filters (see e.g., FIG. 4, reference numeral 430 and page 11, line 21 – page 13, line 28), decimator filters (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28), and the DC-offset correction elements (see e.g., FIG. 4, reference numeral 418 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 16, further define the multi-mode receiver system of claim 11, wherein at least one of the baseband components are configured for a first frequency response characteristic (see e.g., FIG. 3A, reference numeral 310, 312 and page 10, line 30 – page 11, line 20) for the first baseband signal and configured for a second frequency response characteristic (see e.g., FIG. 3B, reference numeral 314, 316 and page 10, line 30 – page 11, line 20) for the second baseband signal.

Embodiments of the claimed subject matter, such as those defined by claim 17, further define the multi-mode receiver system of claim 16, wherein the at least one of the baseband components include at least one of the low-pass filters (see e.g., FIG. 4, reference numeral 436 and page 11, line 21 – page 13, line 28), finite-impulse response filters (see e.g., FIG. 4, reference numeral 446 and page 11, line 21 – page 13, line 28), and the DC-offset correction elements (see e.g., FIG. 4, reference numeral 440 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 18, further define the multi-mode receiver system of claim 11, wherein at least one of the baseband components is configured to sample at a first sampling rate for the first baseband signal and a

second sampling rate for the second baseband signal (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 19, further define the multi-mode receiver system of claim 18, wherein the at least one of the baseband components includes at least one of a decimator filter (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28), a digital-to-analog converter (see e.g., FIG. 4, reference numeral 428 and page 11, line 21 – page 13, line 28), and an analog-to-digital converter (see e.g., FIG. 4, reference numeral 420 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 20, further define the multi-mode receiver system of claim 11, wherein the baseband section is further configured to process a plurality of signals (see e.g., FIG. 2, reference numerals 209, 239, 261, 273 and page 5, line 29 – page 6, line 10) from a plurality of systems (see e.g., page 5, line 29 – page 6, line 10).

Embodiments of the claimed subject matter, such as those defined by claim 21, define a transceiver (see e.g., FIG. 1, reference numeral 100 and page 3, line 25 – page 5, line 28), comprising: means for transmitting signals (see e.g., FIG. 1, reference numerals 130, 148, 180, 174, and 172 and page 3, line 25 – page 5, line 28); means for receiving signals (see e.g., FIG. 1, reference numerals 130, 172, 174, 200 and page 3, line 25 – page 5, line 28), wherein the means for receiving includes pre-converting processing means (see e.g., FIG. 2, reference numerals 202, 204, 208, 240, 242 and page 5, line 29 – page 7, line 8); means for converting (see e.g., FIG. 2, reference numeral 210 and page 6, lines 26-31) a first signal (see e.g., FIG. 2, reference numeral 207 and page 7, lines 6-8) based on a first system (see e.g., page 6, line 11) to a first baseband signal (see e.g., FIG. 2, reference numeral 209 and page 6, line 11 – page 7, line 9); means for converting (see e.g., FIG. 2, reference numeral 244 and page 9, lines 11-16) a second signal (see e.g., FIG. 2, reference numeral 237 and page 9, lines 11-26) based on a



second system (see e.g., page 9, line 11) to a second baseband signal (see e.g., FIG. 2, reference numeral 239 and page 9, lines 11-26); and means for processing the first baseband signal (see e.g., FIG. 2, reference numeral 212a and page 7, lines 9-25), wherein the means for processing the first baseband signal is used for processing the second baseband signal, wherein the means for processing the first baseband signal comprises means for selectively filtering (see e.g., FIG. 2, reference numeral 214 and page 9, lines 16-26) and means for selectively DC-offset correcting (see e.g., FIG. 2, reference numeral 224 and page 9, lines 16-26) the first and second baseband signals, wherein the means for selectively filtering and the means for selectively DC-offset correcting comprises means for selecting different filtering bandwidths and means for selecting different DC-offset correcting bandwidths based on which system baseband signal is to be processed (see e.g., page 7, lines 9-25 and page 9, lines 16-26).

Embodiments of the claimed subject matter, such as those defined by claim 22, further define the transceiver of claim 21, wherein the first system and the second system each include at least one of the following systems code-division multiple access, personal-communication service, global-positioning satellite, digital-broadcast satellite, and global system for mobile communications (see e.g., page 2, line 29 – page 3, line 24).

Embodiments of the claimed subject matter, such as those defined by claim 23, further define the transceiver of claim 21, wherein the means for processing includes at least one of the means for filtering, means for amplifying (see e.g., FIG. 2, reference numeral 218 and page 7, lines 9-25), means for providing digital-to-analog conversion (see e.g., FIG. 4, reference numeral 428 and page 11, line 21 – page 13, line 28), means for providing analog-to-digital conversion (see e.g., FIG. 4, reference numeral 420 and page 11, line 21 – page 13, line 28), means for sampling (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28), and the means for correcting for direct current (DC) offset.

Embodiments of the claimed subject matter, such as those defined by claim 24, further define the transceiver of claim 21, wherein the means for processing includes means for processing in at least one of a digital domain and an analog domain (see e.g., page 5, lines 29-30 and page 11, lines 21-22).

Embodiments of the claimed subject matter, such as those defined by claim 25, further define the transceiver of claim 21, wherein the means for processing includes means for providing a first frequency response characteristic (see e.g., FIG. 3A, reference numeral 310, 312 and page 10, line 30 – page 11, line 20) for the first baseband signal and a second frequency response characteristic (see e.g., FIG. 3B, reference numeral 314, 316 and page 10, line 30 – page 11, line 20) for the second baseband signal.

Embodiments of the claimed subject matter, such as those defined by claim 26, further define the transceiver of claim 21, wherein the means for processing includes means for sampling at a first sampling rate for the first baseband signal and a second sampling rate for the second baseband signal (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 27, further define the transceiver of claim 21, wherein the means for transmitting, means for receiving, means for converting, and means for processing are performed for a plurality of signals (see e.g., FIG. 2, reference numerals 207, 237, 259, 269, 209, 239, 261, 273 and page 5, line 29 – page 6, line 10) from a plurality of systems (see e.g., page 5, line 29 – page 6, line 10).

Embodiments of the claimed subject matter, such as those defined by claim 28, define a multi-mode receiver system (see e.g., FIG. 2, reference numeral 200a and page 5, line 29 – page 10, line 29), comprising: a code-division multiple access system having a common baseband system (see e.g., FIG. 2, reference numeral 212a and page 7, lines 9-25), wherein the common baseband system includes a direct current (DC)-correction element (see e.g., FIG.

2, reference numeral 224 and page 9, lines 16-26) configured to include switchable bandwidths; and a digital-broadcast system that shares the common baseband system with the code-division multiple access system (see e.g., page 7, line 26 – page 8, line 16).

Embodiments of the claimed subject matter, such as those defined by claim 29, further define the multi-mode receiver system of claim 28, wherein the common baseband system further includes at least one of a low-pass filter (see e.g., FIG. 2, reference numeral 214 and page 9, lines 16-26), an all-pass filter (see e.g., FIG. 2, reference numeral 226 and page 7, lines 9-25), and a variable-gain amplifier (see e.g., FIG. 2, reference numeral 218 and page 7, lines 9-25).

Embodiments of the claimed subject matter, such as those defined by claim 30, further define the multi-mode receiver system of claim 29, wherein the low-pass filter is configured to include switchable bandwidths (see e.g., page 7, lines 9-25).

Embodiments of the claimed subject matter, such as those defined by claim 31, further define the multi-mode receiver system of claim 28, wherein the common baseband system further includes at least one of a low-pass filter (see e.g., FIG. 4, reference numeral 414 and page 11, line 21 – page 13, line 28), an analog-to-digital converter (see e.g., FIG. 4, reference numeral 420 and page 11, line 21 – page 13, line 28), a decimator filter (see e.g., FIG. 4, reference numeral 422 and page 11, line 21 – page 13, line 28), a digital-to-analog converter (see e.g., FIG. 4, reference numeral 428 and page 11, line 21 – page 13, line 28), a smoothing filter (see e.g., FIG. 4, reference numeral 430 and page 11, line 21 – page 13, line 28), a finite-impulse response filter (see e.g., FIG. 4, reference numeral 424 and page 11, line 21 – page 13, line 28), and a variable-gain amplifier (see e.g., FIG. 4, reference numeral 416 and page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 32, further define the multi-mode receiver system of claim 31, wherein at least one of the analog-to-digital

converter, the digital-to-analog converter, and the decimator filter is configured to have a first sampling rate for the code-division multiple access system and a second sampling rate for the digital-broadcast system (see e.g., page 11, line 21 – page 13, line 28).

Embodiments of the claimed subject matter, such as those defined by claim 33, further define the multi-mode receiver system of claim 31, wherein at least one of the finite-impulse response filter, the DC-correction element, and the decimator filter is configured to operate at a first frequency response for the code-division multiple access system and a second frequency response for the digital-broadcast system (see e.g., page 10, line 30 – page 11, line 20).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The final Office Action rejected claims 1-27 under 35 U.S.C. § 103(a) as allegedly unpatentable over *Yan et al.* (“*Yan*,” U.S. Pat. No. 6,816,718) in view of *Isberg et al.* (“*Isberg*,” U.S. Pat. No. 6,029,052).

The final Office Action rejected claims 28-33 under 35 U.S.C. § 103(a) as allegedly unpatentable over *Peterzell et al.* (“*Peterzell*,” U.S. Pat. No. 6,694,129) in view of *Digital Video Broadcasting* (<http://www.dvd.org>) and further in view of IEEE 802.11a Standards.

The final Office Action rejected claims 28-33 under 35 U.S.C. § 103(a) as allegedly unpatentable over *Yan* in view of *Digital Video Broadcasting* (<http://www.dvd.org>) and further in view of *IEEE 802.11a Standards*.

## **VII. ARGUMENT**

### **A. Claim Rejections - 35 U.S.C. § 103(a) - Claims 1-27 and *Yan* and *Isberg***

Claims 1-27 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Yan et al.* (“*Yan*,” U.S. Pat. No. 6,816,718) in view of *Isberg et al.* (“*Isberg*,” U.S. Pat. No. 6,029,052). For at least the reasons set forth herein, Appellants respectfully disagree with the

rejection and request that the rejection be overturned.

The M.P.E.P. § 2100-116 states:

Office policy is to follow *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), in the consideration and determination of obviousness under 35 U.S.C. 103. . . the four factual inquires enunciated therein as a background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

In the present case, it is respectfully submitted that a *prima facie* case for obviousness is not established using the art of record.

### **Independent Claim 1**

Claim 1 recites “wherein...selectively DC-offset correcting comprises selecting...different DC-offset correcting bandwidths based on which system baseband signal is to be processed.”

The final Office Action states on page 4 that “In implementation, it is implied that the DC correction circuitry will perform a selection or choice in order to determine the amount of adjustment, depending on the baseband signal inputted, needed to provide a common level as discussed in the prior art.” However, *Yan* states in column 5, lines 37-42:

Prior to baseband processing, the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are preferably filtered with filters 50A-50D, respectively, and amplified with amplifiers 52A and 52B to a desired signal level. As illustrated, the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are monitored by DC correction circuitry 56. The DC correction circuitry determines the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- and provides corresponding level adjustment outputs to adjust the DC levels of the individual differential in-phase and quadrature signals I+, I-, Q+, and Q- to effect DC offset correction using summing circuitry 54A-54D. The DC offset correction operates to force the DC levels of the differential in-phase signals I+ and I- to a common level, and the DC levels of the differential quadrature signals Q+ and Q- to a common level to reduce or eliminate distortion caused by having a DC offset between the respective differential signals.

*Yan* does not teach, disclose, or suggest that the common level to which the DC offset corrector

forces the signals has any relationship to the system baseband signal to be processed; rather, the common level appears to be determined relative to the in-phase and quadrature components of a signal after it has been filtered by filters 50A-50D and amplified by amplifiers 52A and 52B. Forcing the signals to a common level in the system of *Yan* would therefore not involve the selection of different DC-offset correcting bandwidths based on which system baseband signal is to be processed as is recited in claim 1.

The Response to Arguments section (page 2) of the Advisory Action alleges that (a) DC offset correction circuitry in *Yan* forces “the DC levels of the differential in-phase signals I+ and I- to a common level to reduce or eliminate distortion cause by having a DC offset between the respective differential signals,” that (b) depending “on the offset of the input baseband signal as shown in fig. 1, labels I+, I-, Q+ and Q-, the DC offset correction signal would perform an adjustment to provide a common level between Q+, Q- and I+, I-,” and that (c) “it is implied that the DC offset correction circuitry will perform a selection or choice in order to determine the amount of adjustment, depending on the baseband signal inputted, needed to provide a common level as discussed in the prior art.” In other words, the basis of the rejection appears to hinge on the Examiner’s alleged implications, and not actual teachings of the art.

As explained on pages 11 of Appellants’ response after final (RAF) dated January 24, 2008 (and pages 11 and 13 of the response to non-final Office Action dated September 28, 2007, as well as the pre-appeal brief conference filed on May 12, 2008), there is nothing in *Yan* that teaches that different DC-offset correcting **bandwidths** are selected. In addition, as further explained on page 11 of the RAF (and the pre-appeal brief conference), the common level appears to be relative to the in-phase and quadrature components of a signal – i.e., reducing the differences to a common level. There is nothing in *Yan* to suggest that such a process of reducing the differences is based on an absolute value or level of the system baseband signal inputted. For instance, the decision on adjustment might be made independent of the signal

level (e.g., since relativeness appears to be the focus of *Yan*), and hence not based on the system baseband signal to be processed. Indeed, *Yan* is silent as to the actual implementation details pertaining to the manner if which the common level is achieved.

The final Office Action further contends on page 8 that “wherein...selectively DC-offset correcting comprises selecting...different DC-offset correcting bandwidths based on which system baseband signal is to be processed” is disclosed in *Yan*, column 5, lines 22-42, lines 51-57, and column 6, lines 4-12. However, *Yan* states in column 6, lines 39-60:

Next, the control system 32 places an appropriate resistance across the differential input of the dummy LNA 40E based on the communication band for the incoming signal (setp 106) using the load control signal 62. As noted, the selected resistance corresponds to resistance normally seen at the input of the given LAN 40A-40D used during reception of the signal for the given communication band. The control system 32 will then activate the dummy LNA 40E (step 108) and allow the system to settle for a defined period of time (step 110). At this point, any differential output signals of the dummy LNA 40E are likely caused by local oscillator leakage or relatively continuous environmental conditions affecting the differential output signals of the LNAs 40A-40E. These differential output signal of the LNAs 40A-40E result in DC offsets in the differential in-phase and quadrature signals, I+, I-, Q+, and Q- due to the mixing action with the LO signal in the down-conversion circuitry.

Thus the control system 32 activates the DC correction circuitry 56 to monitor the levels of the differential in-phase and quadrature signals I+, I-, Q+, and Q- and provide any necessary DC offset correction (step 110).

Even assuming, *arguendo*, that the system of *Yan* selects a resistance to put across the input dummy LNA based on the communication band of the incoming signal in order to minimize the leakage from the local oscillator in the frequency synthesizer (*Yan*, column 5, lines 16-21), this is not the same as selecting different DC-offset correcting bandwidths based on which system baseband signal is to be processed as is recited in claim 1. The DC-offset circuitry of *Yan* (which is distinct from the dummy LNA) does not appear to be responsive in any way to the **system baseband signal** that is **to be processed**; in column 6, lines 19-22, *Yan* states that the DC correction control signal merely operates to control when the DC correction circuitry operates, not to select different DC-offset correcting bandwidths.

*Isberg* does not remedy the forgoing deficiencies of *Yan*. Therefore, for at least these reasons, Appellants submit that claim 1 is allowable over the art of record and respectfully request that the rejection of the claim be overturned.

Because independent claim 1 is allowable over *Yan* in view of *Isberg*, dependent claims 2-10 are allowable as a matter of law for at least the reason that the dependent claims 2-10 contain all elements of their respective base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, Appellants respectfully request that the rejection of dependent claims 2-10 be overturned for at least the same reasons as set forth above for claim 1.

Further, the final Office Action states on page 10, with reference to claims 6, 7, and 10, that it is well known in the art that filtering can be low pass, all pass, or FIR “since such filters are well known in the art and can be used to perform the functionality of filtering, wherein the filter is chosen based on the inventor’s choice and which would produce the output as desired by the inventor”. Appellants maintain the prior traversal of this allegation and submit that such should not be considered well known since the final Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support this conclusion.

In addition, the final Office Action (page 11) appears to allege inherency for the features of claim 9 (allegedly based on a Nyquist rate determination). That is, the final Office Action alleges that since the system of *Yan* comprises one or more DSP elements, and “since I+, I-, Q+, and Q- signals are adjusted based on the mode of the received signal, the signals would be sampled at a rate determined by Nyquist matching the mode of the signal.” However, in accordance with *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d (BNA) 1949, 1950-51 (Fed. Cir. 1999), Appellants maintain the prior traversal of this allegation, the allegation being inadequate to show why the claimed features are necessarily present in the reference, as *Yan* contains no discussion of different sampling rates for different signals. Consequently, because



of the lack of extrinsic evidence required under *In re Robertson*, the statements in the final Office Action are merely conclusory and not adequately supported, and the rejection of claim 9 should be overturned for this additional reason.

### **Independent Claim 11**

Claim 11 recites “bandwidth-switchable DC-offset correction elements.” The final Office Action states on page 4 that “In implementation, it is implied that the DC correction circuitry will perform a selection or choice in order to determine the amount of adjustment, depending on the baseband signal inputted, needed to provide a common level as discussed in the prior art.”

However, *Yan* states in column 5, lines 37-42:

Prior to baseband processing, the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are preferably filtered with filters 50A-50D, respectively, and amplified with amplifiers 52A and 52B to a desired signal level. As illustrated, the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are monitored by DC correction circuitry 56. The DC correction circuitry determines the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- and provides corresponding level adjustment outputs to adjust the DC levels of the individual differential in-phase and quadrature signals I+, I-, Q+, and Q- to effect DC offset correction using summing circuitry 54A-54D. The DC offset correction operates to force the DC levels of the differential in-phase signals I+ and I- to a common level, and the DC levels of the differential quadrature signals Q+ and Q- to a common level to reduce or eliminate distortion caused by having a DC offset between the respective differential signals.

*Yan* does not teach, disclose, or suggest that the common level to which the DC offset corrector forces the signals has any bearing on the bandwidth of the DC correction elements; rather, the common level appears to be determined relative to the in-phase and quadrature components of the signal after it has been filtered by filters 50A-50D and amplified by amplifiers 52A and 52B. Forcing the signals to a common level in the system of *Yan* would therefore not teach, disclose, or suggest bandwidth-switchable DC-offset elements as is recited in claim 11.

The final Office Action further contends on page 8 that “wherein...selectively DC-offset correcting comprises selecting...different DC-offset correcting bandwidths based on which

system baseband signal is to be processed” is disclosed in *Yan*, column 5, lines 22-42, lines 51-57, and column 6, lines 4-12. However, *Yan* states in column 6, lines 39-60:

Next, the control system 32 places an appropriate resistance across the differential input of the dummy LNA 40E based on the communication band for the incoming signal (step 106) using the load control signal 62. As noted, the selected resistance corresponds to resistance normally seen at the input of the given LAN 40A-40D used during reception of the signal for the given communication band. The control system 32 will then activate the dummy LNA 40E (step 108) and allow the system to settle for a defined period of time (step 110). At this point, any differential output signals of the dummy LNA 40E are likely caused by local oscillator leakage or relatively continuous environmental conditions affecting the differential output signals of the LNAs 40A-40E. These differential output signal of the LNAs 40A-40E result in DC offsets in the differential in-phase and quadrature signals, I+, I-, Q+, and Q- due to the mixing action with the LO signal in the down-conversion circuitry.

Thus the control system 32 activates the DC correction circuitry 56 to monitor the levels of the differential in-phase and quadrature signals I+, I-, Q+, and Q- and provide any necessary DC offset correction (step 110).

Even assuming, *arguendo*, that the system of *Yan* selects a resistance to put across the input dummy LNA based on the communication band of the incoming signal in order to minimize the leakage from the local oscillator in the frequency synthesizer (*Yan*, column 5, lines 16-21), this is not the same as bandwidth-switchable DC-offset correction elements as is recited in claim 11.

It is not taught, disclosed, or suggested in *Yan* that the DC-offset element (which is distinct from the dummy LNA) is **bandwidth-switchable**; in column 6, lines 19-22, *Yan* states that the DC correction control signal merely operates to control when the DC correction circuitry operates, not to switch the bandwidth of the DC-offset correcting elements.

*Isberg* does not remedy the forgoing deficiencies of *Yan*. Therefore, for at least these reasons, Appellants submit that claim 11 is allowable over the art of record and respectfully request that the rejection of the claim be overturned.

Because independent claim 11 is allowable over *Yan* in view of *Isberg*, dependent claims 12-20 are allowable as a matter of law. Accordingly, Appellants respectfully request that the rejection of dependent claims 12-20 be overturned for at least the same reasons as set forth above

for claim 11.

Further, the final Office Action states on page 10, with reference to claims 15, 17, and 19, that it is well known in the art that filtering can be low pass, all pass, or FIR “since such filters are well known in the art and can be used to perform the functionality of filtering, wherein the filter is chosen based on the inventor’s choice and which would produce the output as desired by the inventor”. Appellants maintain the prior traversal of this allegation and submit that such should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support this conclusion.

In addition, the final Office Action (page 11) appears to allege inherency for the features of claim 18 (allegedly based on a Nyquist rate determination). That is, the final Office Action alleges that since the system of *Yan* comprises one or more DSP elements, and “since I+, I-, Q+, and Q- signals are adjusted based on the mode of the received signal, the signals would be sampled at a rate determined by Nyquist matching the mode of the signal.” However, in accordance with *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d (BNA) 1949, 1950-51 (Fed. Cir. 1999), Appellants maintain the prior traversal of this allegation, the allegation being inadequate to show why the claimed features are necessarily present in the reference, as *Yan* contains no discussion of different sampling rates for different signals. Consequently, because of the lack of extrinsic evidence required under *In re Robertson*, the statements in the final Office Action are merely conclusory and not adequately supported, and the rejection of claim 11 should be overturned for this additional reason.

### **Independent Claim 21**

Claim 21 recites “means for selecting different DC-offset correcting bandwidths based on which system baseband signal is to be processed.” The final Office Action states on page 4

that “In implementation, it is implied that the DC correction circuitry will perform a selection or choice in order to determine the amount of adjustment, depending on the baseband signal inputted, needed to provide a common level as discussed in the prior art.” However, *Yan* states in column 5, lines 37-42:

Prior to baseband processing, the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are preferably filtered with filters 50A-50D, respectively, and amplified with amplifiers 52A and 52B to a desired signal level. As illustrated, the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are monitored by DC correction circuitry 56. The DC correction circuitry determines the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- and provides corresponding level adjustment outputs to adjust the DC levels of the individual differential in-phase and quadrature signals I+, I-, Q+, and Q- to effect DC offset correction using summing circuitry 54A-54D. The DC offset correction operates to force the DC levels of the differential in-phase signals I+ and I- to a common level, and the DC levels of the differential quadrature signals Q+ and Q- to a common level to reduce or eliminate distortion caused by having a DC offset between the respective differential signals.

*Yan* does not teach, disclose, or suggest that the common level to which the DC offset corrector forces the signals has any relationship to the system baseband signal to be processed; rather, the common level appears to be determined relative to the in-phase and quadrature components of a signal after it has been filtered by filters 50A-50D and amplified by amplifiers 52A and 52B. Forcing the signals to a common level in the system of *Yan* would therefore not involve the means for selection of different DC-offset correcting bandwidths based on which system baseband signal is to be processed as is recited in claim 21.

The final Office Action further contends on page 8 that “wherein...selectively DC-offset correcting comprises selecting...different DC-offset correcting bandwidths based on which system baseband signal is to be processed” is disclosed in *Yan*, column 5, lines 22-42, lines 51-57, and column 6, lines 4-12. However, *Yan* states in column 6, lines 39-60:

Next, the control system 32 places an appropriate resistance across the differential input of the dummy LNA 40E based on the communication band for the incoming signal (setp 106) using the load control signal 62. As noted, the selected resistance corresponds to resistance normally seen at the input of the given LAN 40A-40D used during reception of the signal for the given communication band. The control

system 32 will then activate the dummy LNA 40E (step 108) and allow the system to settle for a defined period of time (step 110). At this point, any differential output signals of the dummy LNA 40E are likely caused by local oscillator leakage or relatively continuous environmental conditions affecting the differential output signals of the LNAs 40A-40E. These differential output signal of the LNAs 40A-40E result in DC offsets in the differential in-phase and quadrature signals, I+, I-, Q+, and Q- due to the mixing action with the LO signal in the down-conversion circuitry.

Thus the control system 32 activates the DC correction circuitry 56 to monitor the levels of the differential in-phase and quadrature signals I+, I-, Q+, and Q- and provide any necessary DC offset correction (step 110).

Even assuming, *arguendo*, that the system of *Yan* selects a resistance to put across the input dummy LNA based on the communication band of the incoming signal in order to minimize the leakage from the local oscillator in the frequency synthesizer (*Yan*, column 5, lines 16-21), this is not the same as means for selecting different DC-offset correcting bandwidths based on which system baseband signal is to be processed as is recited in claim 21. The DC-offset circuitry of *Yan* (which is distinct from the dummy LNA) does not appear to be responsive in any way to the **system baseband signal** that is **to be processed**; in column 6, lines 19-22, *Yan* states that the DC correction control signal merely operates to control when the DC correction circuitry operates, not to select different DC-offset correcting bandwidths.

*Isberg* does not remedy the forgoing deficiencies of *Yan*. Therefore, for at least these reasons, Appellants submit that claim 21 is allowable over the art of record and respectfully request that the rejection of the claim be overturned.

Because independent claim 21 is allowable over *Yan* in view of *Isberg*, dependent claims 22-27 are allowable as a matter of law. Accordingly, Appellants respectfully request that the rejection of dependent claims 22-27 be overturned for at least the same reasons as set forth above for claim 21.

In addition, the final Office Action (page 11) appears to allege inherency for the features of claim 26 (allegedly based on Nyquist rate determination). That is, the final Office Action alleges that since the system of *Yan* comprises one or more DSP elements, and “since I+, I-,

Q+, and Q- signals are adjusted based on the mode of the received signal, the signals would be sampled at a rate determined by Nyquist matching the mode of the signal.” However, in accordance with *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d (BNA) 1949, 1950-51 (Fed. Cir. 1999), Appellants maintain the prior traversal of this allegation, the allegation being inadequate to show why the claimed features are necessarily present in the reference, as *Yan* contains no discussion of different sampling rates for different signals. Consequently, because of the lack of extrinsic evidence required under *In re Robertson*, the statements in the final Office Action are merely conclusory and not adequately supported, and the rejection of claim 26 should be overturned for this additional reason.

**B. Claim Rejections - 35 U.S.C. § 103(a) - Claims 28-33 and *Peterzell, Digital Video Broadcasting, and IEEE***

Claims 28-33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Peterzell et al.* (“*Peterzell*,” U.S. Pat. No. 6,694,129) in view of *Digital Video Broadcasting* (<http://www.dvd.org>) and further in view of IEEE 802.11a Standards. For at least the reasons set forth herein, Appellants respectfully disagree with the rejection and request that the rejection be overturned.

The M.P.E.P. § 2100-116 states:

Office policy is to follow *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), in the consideration and determination of obviousness under 35 U.S.C. 103. . . the four factual inquiries enunciated therein as a background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

In the present case, it is respectfully submitted that a *prima facie* case for obviousness is not established using the art of record.

Claim 28 recites: “a direct current (DC)-correction element configured to include switchable bandwidths”. The final Office Action alleges on page 6 that:

*Yan* discloses adjusting the LO drive level by varying the gain of the buffer amplifier, which in turn adjust the DC level...The examiner interprets the term “switchable bandwidths” as the bandwidth of the DC offset is switched or adjusted or changed from a current level to a new level. In implementation, the LO drive level is set to one level during a particular procedure and then altered or adjusted when the gain of the amplifier is varied. In the process of altering or adjusting the LO drive level, switching is implied by switching or changing the LO drive level from the current level to a new level.

As explained in Appellants’ RAF, Appellants assume the use of *Yan* as a reference in the above passage is an error, and that *Peterzell* is the intended reference. The final Office Action further alleges on page 14 that the limitation is disclosed in *Peterzell*, column 9, lines 30-35, and column 10, lines 51-55. However, the relevant portion of *Peterzell* states (column 10, lines 51-55):

However, because the DC output of the LO I and Q channel mixers is related to the LO leakage, varying the LO drive level changes the DC offset. Therefore, the DC offset may need to be removed before baseband signals may be demodulated.

The changes in the DC offset that result from the variations in the LO drive appear to be an undesirable side effect of the variations in the LO drive, as evidenced by the need to remove the DC offset from the baseband signals. However, changes in the DC offset do not equal changes in the DC offset correction element, and while the DC cancellation module of *Peterzell* is discussed in more detail in column 13, lines 44-column 14, line 10, nowhere does *Peterzell* go into any detail about the bandwidth of the DC correction element that removes the DC offset. The only switchable aspect of the DC cancellation module of *Peterzell* appears to be the speed (column 13, lines 59-61), which is distinct from the bandwidth. Therefore, *Peterzell* does not disclose, teach, or suggest “a direct current (DC)-correction element configured to include switchable bandwidths” as is recited in independent claim 28. Neither *Digital Video Broadcasting* or the IEEE 802.11a Standards remedy this deficiency. Therefore, for at least these reasons, Appellants submit that claim 28 is allowable over the art of record and respectfully request that the rejection of the claim be overturned.

Because independent claim 28 is allowable over *Peterzell* in view of *Digital Video Broadcasting* and further in view of IEEE 802.11a Standards, dependent claims 29-33 are allowable as a matter of law for at least the reason that the dependent claims 29-33 contain all elements of their respective base claim. Accordingly, Appellants respectfully request that the rejection to claims 29-33 be overturned for at least the reasons set forth above for claim 28.

**C. Claim Rejections - 35 U.S.C. § 103(a) - Claims 28-33 and *Yan, Digital Video Broadcasting*, and *IEEE***

Claims 28-33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Yan* in view of *Digital Video Broadcasting* (<http://www.dvd.org>) and further in view of *IEEE 802.11a Standards*. For at least the reasons set forth herein, Appellants respectfully disagree with the rejection and request that the rejection be overturned.

The M.P.E.P. § 2100-116 states:

Office policy is to follow *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), in the consideration and determination of obviousness under 35 U.S.C. 103. . . the four factual inquiries enunciated therein as a background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

In the present case, it is respectfully submitted that a *prima facie* case for obviousness is not established using the art of record.

Claim 28 recites “a direct current (DC)-correction element configured to include switchable bandwidths”. The final Office Action alleges on page 4 (regarding claims 1, 11, and 21) that “In implementation, it is implied that the DC correction circuitry will perform a selection or choice in order to determine the amount of adjustment, depending on the baseband signal inputted, needed to provide a common level as discussed in the prior art.” However, *Yan* states in



column 5, lines 37-42:

Prior to baseband processing, the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are preferably filtered with filters 50A-50D, respectively, and amplified with amplifiers 52A and 52B to a desired signal level. As illustrated, the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- are monitored by DC correction circuitry 56. The DC correction circuitry determines the relative DC levels for the differential in-phase and quadrature signals, I+, I-, Q+, and Q- and provides corresponding level adjustment outputs to adjust the DC levels of the individual differential in-phase and quadrature signals I+, I-, Q+, and Q- to effect DC offset correction using summing circuitry 54A-54D. The DC offset correction operates to force the DC levels of the differential in-phase signals I+ and I- to a common level, and the DC levels of the differential quadrature signals Q+ and Q- to a common level to reduce or eliminate distortion caused by having a DC offset between the respective differential signals.

*Yan* does not teach, disclose, or suggest that the common level to which the DC offset corrector forces the signals has any bearing on the bandwidth of the DC correction elements; rather, the common level appears to be determined relative to the in-phase and quadrature components of the signal after it has been filtered by filters 50A-50D and amplified by amplifiers 52A and 52B. Forcing the signals to a common level in the system of *Yan* would therefore not teach, disclose, or suggest a direct current (DC)-correction element configured to include switchable bandwidths as is recited in claim 28.

The final Office Action further contends on page 8 (regarding claims 1, 11, and 21) that “wherein...selectively DC-offset correcting comprises selecting different DC-offset correcting bandwidths based on which system baseband signal is to be processed” is disclosed in *Yan*, column 5, lines 22-42, lines 51-57, and column 6, lines 4-12. However, *Yan* states in column 6, lines 39-60:

Next, the control system 32 places an appropriate resistance across the differential input of the dummy LNA 40E based on the communication band for the incoming signal (step 106) using the load control signal 62. As noted, the selected resistance corresponds to resistance normally seen at the input of the given LAN 40A-40D used during reception of the signal for the given communication band. The control system 32 will then activate the dummy LNA 40E (step 108) and allow the system to settle for a defined period of time (step 110). At this point, any differential output signals of the dummy LNA 40E are likely caused by local oscillator leakage or relatively continuous environmental conditions affecting the differential output signals

of the LNAs 40A-40E. These differential output signal of the LNAs 40A-40E result in DC offsets in the differential in-phase and quadrature signals, I+, I-, Q+, and Q- due to the mixing action with the LO signal in the down-conversion circuitry.

Thus the control system 32 activates the DC correction circuitry 56 to monitor the levels of the differential in-phase and quadrature signals I+, I-, Q+, and Q- and provide any necessary DC offset correction (step 110).

Even assuming, *arguendo*, that the system of *Yan* selects a resistance to put across the input dummy LNA based on the communication band of the incoming signal in order to minimize the leakage from the local oscillator in the frequency synthesizer (*Yan*, column 5, lines 16-21), this is not the same as a direct current (DC)-correction element configured to include switchable bandwidths as is recited in claim 28. It is not taught, disclosed, or suggested in *Yan* that the DC-offset element (which is distinct from the dummy LNA) switches bandwidth; in column 6, lines 19-22, *Yan* states that the DC correction control signal merely operates to control when the DC correction circuitry operates, not to switch the bandwidth of the DC-offset correcting elements.

*Digital Video Broadcasting* further in view of *IEEE 802.11a Standards* does not remedy the forgoing deficiencies of *Yan*. Therefore, for at least these reasons, Appellants submit that claim 28 is allowable over the art of record and respectfully request that the rejection of the claim be overturned.

Because independent claim 28 is allowable over *Yan* in view of *Digital Video Broadcasting* further in view of *IEEE 802.11a Standards*, dependent claims 29-33 are allowable as a matter of law for at least the reason that the dependent claims 29-33 contain all elements of their respective base claim. Accordingly, Appellants respectfully request that the rejection of claims 29-33 be overturned for at least the reasons set forth above for claim 28.

Further, the final Office Action states on page 17, with respect to claims 29, 31, 32, and 33, that it is well known in the art that filtering can be low pass, all pass, or FIR “since such filters are well known in the art and can be used to perform the functionality of filtering, wherein

the filter is chosen based on the inventor's choice and which would produce the output as desired by the inventor". Appellants maintain the prior traversal of this allegation and submit that such should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support this conclusion.

For at least the forgoing reasons, it is Appellants' position that a *prima facie* for obviousness has not been made against Appellants' claims, and thus the rejections to the claims should be overturned.

### **CONCLUSION**

Based upon the foregoing discussion, Appellants respectfully requests that the Examiner's final rejection of claims 1-33 be overruled and withdrawn by the Board, and that the application be allowed to issue as a patent with all pending claims.

In addition to the claims shown in the claims Appendix VIII, Appendix IX attached hereto indicates that there is evidence being attached and relied upon by this brief. Appendix X attached hereto indicates that there are no related proceedings.

Please charge the deposit account 20-0778 in the amount of \$510 for the filing of this Appeal Brief. No additional fees, outside of the extension of time fees requested under the accompanying petition, are believed to be due in connection with this Appeal Brief. If, however, any additional fees are deemed to be payable, you are hereby authorized to charge any such fees to deposit account No. 20-0778.

Respectfully submitted,

/dr/  
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## **VIII. CLAIMS - APPENDIX**

1. A method for receiving signals based on a plurality of systems, the method comprising:  
converting a first signal based on a first system to a first baseband signal;  
converting a second signal based on a second system to a second baseband signal;  
processing the first baseband signal using baseband components; and  
processing the second baseband signal using the baseband components, wherein  
processing the first baseband signal and the second baseband signal comprises selectively  
filtering and selectively DC-offset correcting the first and second baseband signals, wherein  
selectively filtering and selectively DC-offset correcting comprises selecting different filtering  
bandwidths and different DC-offset correcting bandwidths based on which system baseband  
signal is to be processed.
2. The method of claim 1, wherein the first system and the second system each include at  
least one of the following systems code-division multiple access, personal-communication  
service, global-positioning satellite, digital-broadcast satellite, and global system for mobile  
communications.
3. The method of claim 1, wherein the processing further includes at least one of filtering,  
amplifying, providing digital-to-analog conversion, providing analog-to-digital conversion, and  
sampling, and correcting for direct current (DC) offset.
4. The method of claim 1, wherein the processing includes processing in at least one of a  
digital domain and an analog domain.

5. The method of claim 1, wherein the processing includes configuring at least one of the baseband components for a first frequency response characteristic for the first baseband signal and configuring the at least one of the baseband components for a second frequency response characteristic for the second baseband signal.
6. The method of claim 5, wherein the at least one of the baseband components include at least one of low-pass filters, finite-impulse response filters, and DC-offset correction elements.
7. The method of claim 1, wherein the baseband components include at least one of low-pass filters, all-pass filters, variable-gain amplifiers, analog-to-digital converters, digital-to-analog converters, finite-impulse response filters, smoothing filters, decimator filters, and DC-offset correction elements.
8. The method of claim 1, wherein the converting and processing are performed for a plurality of signals from a plurality of systems.
9. The method of claim 1, wherein the processing includes sampling at a first sampling rate for the first baseband signal and a second sampling rate for the second baseband signal.
10. The method of claim 9, wherein the sampling is performed by at least one of a decimator filter, a digital-to-analog converter, and an analog-to-digital converter.

11. A multi-mode receiver system for processing signals based on a plurality of systems, comprising:

a baseband section configured to process a first baseband signal based on a first system using baseband components, wherein the baseband section is further configured to process a second baseband signal based on a second system using the baseband components, wherein the baseband components comprise bandwidth-switchable low-pass filters and bandwidth-switchable DC-offset correction elements.

12. The system of claim 11, further including a downconverter that is configured to convert a first signal to the first baseband signal and a second signal to the second baseband signal.

13. The system of claim 11, further including a first downconverter and a second downconverter, the first downconverter configured to convert a first signal to the first baseband signal, the second downconverter configured to convert a second signal to the second baseband signal.

14. The system of claim 11, wherein the first system and the second system each include at least one of the following systems code-division multiple access, personal-communication service, global-positioning satellite, digital-broadcast satellite, and global system for mobile communications.

15. The system of claim 11, wherein the baseband components include at least one of the low-pass filters, all-pass filters, variable-gain amplifiers, analog-to-digital converters, digital-to-analog converters, finite-impulse response filters, smoothing filters, decimator filters, and the DC-offset correction elements.

16. The system of claim 11, wherein at least one of the baseband components are configured for a first frequency response characteristic for the first baseband signal and configured for a second frequency response characteristic for the second baseband signal.

17. The system of claim 16, wherein the at least one of the baseband components include at least one of the low-pass filters, finite-impulse response filters, and the DC-offset correction elements.

18. The system of claim 11, wherein at least one of the baseband components is configured to sample at a first sampling rate for the first baseband signal and a second sampling rate for the second baseband signal.

19. The system of claim 18, wherein the at least one of the baseband components includes at least one of a decimator filter, a digital-to-analog converter, and an analog-to-digital converter.

20. The system of claim 11, wherein the baseband section is further configured to process a plurality of signals from a plurality of systems.



21. A transceiver, comprising:

means for transmitting signals;

means for receiving signals, wherein the means for receiving includes pre-converting processing means;

means for converting a first signal based on a first system to a first baseband signal;

means for converting a second signal based on a second system to a second baseband signal; and

means for processing the first baseband signal, wherein the means for processing the first baseband signal is used for processing the second baseband signal, wherein the means for processing the first baseband signal comprises means for selectively filtering and means for selectively DC-offset correcting the first and second baseband signals, wherein the means for selectively filtering and the means for selectively DC-offset correcting comprises means for selecting different filtering bandwidths and means for selecting different DC-offset correcting bandwidths based on which system baseband signal is to be processed.

22. The transceiver of claim 21, wherein the first system and the second system each include at least one of the following systems code-division multiple access, personal-communication service, global-positioning satellite, digital-broadcast satellite, and global system for mobile communications.

23. The transceiver of claim 21, wherein the means for processing includes at least one of the means for filtering, means for amplifying, means for providing digital-to-analog conversion, means for providing analog-to-digital conversion, means for sampling, and the means for correcting for direct current (DC) offset.

24. The transceiver of claim 21, wherein the means for processing includes means for processing in at least one of a digital domain and an analog domain.

25. The transceiver of claim 21, wherein the means for processing includes means for providing a first frequency response characteristic for the first baseband signal and a second frequency response characteristic for the second baseband signal.

26. The transceiver of claim 21, wherein the means for processing includes means for sampling at a first sampling rate for the first baseband signal and a second sampling rate for the second baseband signal.

27. The transceiver of claim 21, wherein the means for transmitting, means for receiving, means for converting, and means for processing are performed for a plurality of signals from a plurality of systems.

28. A multi-mode receiver system, comprising:

a code-division multiple access system having a common baseband system, wherein the common baseband system includes a direct current (DC)-correction element configured to include switchable bandwidths; and

a digital-broadcast system that shares the common baseband system with the code-division multiple access system.

29. The multi-mode receiver system of claim 28, wherein the common baseband system further includes at least one of a low-pass filter, an all-pass filter, and a variable-gain amplifier.

30. The multi-mode receiver system of claim 29, wherein the low-pass filter is configured to include switchable bandwidths.

31. The multi-mode receiver system of claim 28, wherein the common baseband system further includes at least one of a low-pass filter, an analog-to-digital converter, a decimator filter, a digital-to-analog converter, a smoothing filter, a finite-impulse response filter, and a variable-gain amplifier.

32. The multi-mode receiver system of claim 31, wherein at least one of the analog-to-digital converter, the digital-to-analog converter, and the decimator filter is configured to have a first sampling rate for the code-division multiple access system and a second sampling rate for the digital-broadcast system.

33. The multi-mode receiver system of claim 31, wherein at least one of the finite-impulse response filter, the DC-correction element, and the decimator filter is configured to operate at a first frequency response for the code-division multiple access system and a second frequency response for the digital-broadcast system.

**IX. EVIDENCE - APPENDIX**

None.

**IX. RELATED PROCEEDINGS- APPENDIX**

None.